

L 5073-66

ACC NR: AP5022633

was described and schematically presented. The use of stationary dosimeters for area and room monitoring by means of a remote control equipment is discussed and a formula for the determination of pulse reading errors is given. The fundamental aspects of determining personal doses by means of telemetering devices were reviewed and one of the possible arrangements was illustrated. In conclusion, it is stated that the proposed devices and arrangements can be realized by using existing standard instruments and equipment. Orig. art. has: 1 table and 3 diagrams.

ASSOCIATION: None

SUBMITTED: 25Nov65

NO REF SOV: 003

ENCL: 00

SUB CODE: NP

OTHER: 002

Card 2/2 Md

STAROVOTTOV, V.Ye.

Elimination of diphtheria. Zdrav. Belor. 5 no.11-3 N '59.
(MIRA 13:3)

1. Iz Kamenskogo fel'dshersko-akusherskogo punkta Mogilevskoy
oblasti.

(DIPHTHERIA)

KAZAKOV, P.P.; STAROVCOYTOV, Ye.T.

Developing boron ore for ferroboron smelting. Biul.tekh.-ekor.
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. 18 no.5:4-5
(MIRA 18:6)
My '65.

L 60255-65 EPF(c)/EPF(n)-2/EWP(z)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWP(t)
Pu-4 IJP(c) MJW/JD/JG/WE
ACCESSION NR: AP5012655

UR/0369/65/001/002/0214/0217 40
39
8

AUTHOR: Il'ina, G. V.; Kuslitskiy, A. B.; Starovoytov, Yu. A.

TITLE: The effect which composite alloying with manganese, tungsten and molybdenum
has on corrosion fatigue strength and corrosion resistance of ShKh 15 steel

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 1, no. 2, 1965, 214-217

TOPIC TAGS: corrosion resistance, steel corrosion, fatigue strength, alloy steel

ABSTRACT: Previous tests show that reducing non-metallic inclusions does not affect the hardenability and heat resistance of ShKh 15 steel. This work considers the effects of composite alloying with molybdenum (0.4-0.6%), tungsten (1.0-1.2%) and manganese (0.9-1.2) on certain properties of ShKh steel. The alloy was designated ShKh 15VMG. The steel was produced by two-arc vacuum melting. Purity tests show that ShKh 15VMG melted by this method is only a little less pure than ShKh 15 steel. Optimum melting conditions are described. Tests showed that alloying with manganese, tungsten and molybdenum improves the maximum hardness of the steel and greatly increases creep resistance. Tables are given comparing the mechanical properties and toughness of the steels. Fatigue test results are given and compared

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L 60255-65

ACCESSION NR: AP5012655

with ShKh 15 steel fatigue curves. Corrosion fatigue test results are given. It was found that composite alloying of ShKh 15 steel with 1.0-1.2% tungsten, 0.4-0.6% molybdenum and 0.9-1.2% manganese, somewhat increases its hardenability, markedly increases heat resistance and toughness, causes an increase in cyclic strength in air, substantial rise in corrosion resistance in H_2SO_4 and does not greatly affect corrosion fatigue endurance in 3% NaCl solution. Orig. art. has: 3 figures, 2 tables.

ASSOCIATION: FMI AN UkrSSR, Lvov

SUBMITTED: 21Sep64

ENCL: 00

SUB CODE: MM

NO REF Sov: 009

OTHER: 000

Card 2/2

L 37941-66 ENT(m)/EMP(w)/I/EMP(t)/ETI IJP(c) JD
ACC NR: AP6023448 (N)

SOURCE CODE: UR/0369/66/002/003/0336/0339

AUTHOR: Kuslitskiy, A. B.; Kreymerman, G. I.; Kokotaylo, I. V.; Starovoytov, Yu. A.;
Karpenko, G. V.; Tkachev, V. I.

ORG: Physicomechanical Institute, AN UkrSSR, L'vov (Fiziko-mekhanicheskiy institut
AN UkrSSR)

TITLE: Effect of metallurgical factors on the low-cycle fatigue in various media

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 3, 1966, 336-339

TOPIC TAGS: steel, low alloy steel, nickel containing steel, ~~vacuum-degassed steel~~,
~~low-cycle fatigue, steel fatigue strength, steel fatigue life/12KhN3A steel~~
~~steel structure~~

ABSTRACT: Low-alloy 12KhN3A structural steel, conventionally cast or vacuum degassed,
was hot-rolled into 40 mm plates or 3 mm sheets, hardened and tempered to a tensile
strength of 100 dan/mm², and tested for fatigue strength. In the air, in a 3% NaCl
aqueous solution, and in the same solution with applied cathodic polarization, the
latter to promote a hydrogen absorption. A constant-amplitude, symmetrical bending
at a frequency of 0.8 cps was used in the tests. The test results showed that
vacuum-degassed steel had a longer fatigue life in all the investigated media than
the conventionally cast steel, especially in the tests in the NaCl solution with
cathodic polarization. The embrittling effect of hydrogen and, correspondingly, the
difference in the fatigue life increased with increasing amplitude. Longitudinal

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L 27941-66

ACC NR: AP6023448

specimens had a longer fatigue life than that of transverse specimens. With increasing amplitude, the difference in the fatigue life of longitudinal and transverse specimens increased substantially in tests in the air, and less so in tests in NaCl solution, but noticeably decreased in the NaCl with cathodic polarization. Sheet specimens had a slightly higher fatigue life than that of plate specimens in the air and in NaCl solution, but lower in NaCl with cathodic polarization. Orig. art. has: 1 figure.

[MS]

SUB CODE: 11/ SUBM DATE: 05Feb66/ ORIG REF: 002/ ATD PRESS: 5-047

Card 2/2 MILP

Starovytova, H.F.
RODICHOVA, K.V.; STAROVYTOWA, A.F.; KAPERSKAYA, N.V.

Geochemistry of pre-Devonian deposits in the central section of
the Russian Platform. Trudy VNII no.4:65-100 '54. (MIRA 9:1)
(Russian Platform--Geochemistry)

The geochemical characteristic of the terrigenous Devonian strata of the SW part of Bashkirie. K. F. Radionova, A. F. Starovoitova, and K. M. Makrochkins. *Trudy Vsesoyuz. Neftegas. Nauch.-Issledovatel. Inst.*, 1957, No. 11, 271-309. —Oxidation-reduction conditions during the sedimentation and the following diagenesis, detn. of the distribution of the org. material and the changes of its compn. with the purpose of finding in it secondary bitumens are studied. Numerous analyses of elementary, sulfate, and composite sulfur, ferrous, ferric, and composite iron, and org. material, and diagrams based on these analyses are given.

A. Volboeth

STAROVITOVA, A.F.

RODIONOVA, K.P.; STAROVITOVA, A.F.

Study of humic acids in the Maykop deposits of central Ciscaucasia.
VII no. 11; 310-320 '57. (MLRA 10:11)
(Caucasus, Northern--Humic acid)

RODIONOVA, K.F.; STAROVOTMOVA, A.F.; KIRIYENKOVA, N.V.

Geochemistry of Maykop, Khadum, and foraminiferal sediments in
Stavropol Territory. Trudy VNII no.14:118-146 '58. (NIRA 12:7)
(Stavropol Territory--Sediments (Geology))

RODIONOVA, K.F.; STAROVYOTOVA, A.P.; KIRIYENKOVA, N.V.; MAKAROCHKINA, K.M.;
Prinimali uchastiye: KOTOSHEVA, Z.S.; MOCHALOVA, Ye.M.

Characteristics of the organic substance in Jivet sediments of the
Pavlovskaya, Tashliyar, and Aktash areas in the Romashkino field.
Trudy VNII no.23:161-204 '60. (MIRA 13:11)
(Romashkino region--Sediments (Geology))
(Organic matter)

KEL'TSEV, N.V.; STAROVOCYTOVA, A.F.

Production of pure isopentane by fractionation on synthetic zeolites.
Gaz.prom. 6 no.8:34-37 '61. (MIRA 14:10)
(Butane) (Zeolites)

VORONCHIKHINA, M.G.; KEL'TSEV, N.V.; STAROVYTOVA, A.F.; KHALIF, A.L.

Obtaining solvents from casing-head gasolines. Trudy VNIIGAZ no.12:
159-163 '61. (MIRA 15:1)
(Gasoline) (Solvents)

STRECHOVY TOVA, A.E.

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PHASE I BOOK EXPLOITATION

SOV/6246

Soveshchaniye po tseolitam. 1st, Leningrad, 1961.

Sinteticheskiye tseolity; polucheniye, issledovaniye i primeneniye
(Synthetic Zeolites: Production, Investigation, and Use). Mos-
cow, Izd-vo AN SSSR, 1962. 286 p. (Series: Its: Doklady)
Errata slip inserted. 2500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye khimicheskikh
nauk. Komisiya po tseolitam.

Resp. Eds.: M. M. Dubinin, Academician and V. V. Serpinskiy, Doctor
of Chemical Sciences; Ed.: Ye. G. Zhukovskaya; Tech. Ed.: S. P.
Golub'.

PURPOSE: This book is intended for scientists and engineers engaged
in the production of synthetic zeolites (molecular sieves), and
for chemists in general.

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Synthetic Zeolites: (Cont.)

SOV/6246

COVERAGE: The book is a collection of reports presented at the First Conference on Zeolites, held in Leningrad 16 through 19 March 1961 at the Leningrad Technological Institute imeni Lensoviet, and is purportedly the first monograph on this subject. The reports are grouped into 3 subject areas: 1) theoretical problems of adsorption on various types of zeolites and methods for their investigation, 2) the production of zeolites, and 3) application of zeolites. No personalities are mentioned. References follow individual articles.

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Dubinin, M. N. Introduction	5

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Synthetic Zeolites: (Cont.)

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- Tonkonog, L. G., K. V. Chmutov. Separation of Mixtures of Ethyl and Methyl Alcohols on Synthetic Zeolites 230
- Vol'f, M. B., and R. V. Alekseyeva. Application of Synthetic CaA Zeolites in Separating Hydrocarbon Mixtures 233
- Mitrofanov, M. G., and Ya. V. Mirskiy. Separation of Petroleum Fractions on Synthetic Zeolites 236
- Kel'tsev, N. V., A. P. Starovoytova, and N. S. Torocheshnikov. The Adsorption Method of Purifying Isopentane From Admixtures of n-Pentane 239
- Vinogradova, V. S., and L. S. Kofman. Application of Synthetic Zeolites in Separating and Purifying Synthetic Rubber Monomers 245

Card #1000 3/6

SOV/142-58-4-15/30

Maximum Rated Capacity for a Semi-Open H-Shaped Wave-Guide

critical thickness is determined by a formula. The calculation is made in the paper for polystyrol ($\epsilon = 2.53$ and for $f = 3-10$ thousand Mc). The breakdown capacity is examined taking into account the possibility of a disruptive discharge in air and of a thermal puncture in the di-electric. In the first section, the relations are explained of (1) external power to di-electric thickness, (2) critical power concentrated in the air and (3) full critical capacity to the relative thickness of the di-electric for disruptive (air) discharge and for punctures in the di-electric. In the second part the relation of the field voltage in the center of the di-electric to the thickness of the di-electric is examined. The author concludes that semi-open H-shaped wave-guides should be used with small thickness of the di-electric plates for transmission of large power values but that at the same time the dimensions of the metallic plates must be increased, since the field will be more dispersely distributed. There are 5 graphs, 1 figure

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SOV/142-58-4-15/30

Maximum Rated Capacity for a Semi-Open H-Shaped Wave-Guide

and 4 references, 3 of which are Soviet and 1 German.

ASSOCIATION: Kafedra radiofiziki Tomskogo gosudarstvennogo universiteta imeni V.V.Kuybysheva (Chair of Radio Physics, Tomsk State University imeni V.V.Kuybyshev)

SUBMITTED: March 24, 1958

Card 3/3

9.1000

SOV/112-59-23-48568
50133Translation from: Referativnyy zhurnal Elektrotehnika, 1959, Nr 23, p 183,
(USSR)

AUTHORS:

Bobrovnikov, M.S., Sazonov, A.I., Starovortova, R.P.

TITLE:

Excitation of Oscillations With a Fringe Radiation in In-
finitely Long Wire and Plane

PERIODICAL: Tr. Sibirs. fiz.-tekhn. in-ta, 1958, Nr 36, pp 381 - 388

ABSTRACT:

A diffractional method of studying antennas is proposed on a model consisting of an infinitely long hollow conductor excited by two ringshaped slots fed from inside. At a distance between the slots equal to

$$\frac{2\pi l}{\lambda} = (2n + 1) \frac{\pi}{2},$$

where l is the half-distance between the slots, a fringe radiation only with a lobe diagram will be observed. A formula for the magnetic component of the field is derived. Also in this case there is a lobe radiation diagram. Methods of measurement

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SOV/112-59-23-48568

Excitation of Oscillations With a Fringe Radiation in Infinitely Long Wire
and Plane

and the equipment are described. The diagrams obtained for current density and radiation field agree fairly well with the theory. ✓

Ye.I.S.

Card 2/2

9.1400

S/194/62/000/008/091/100
D413/D308

AUTHORS: Bobrovnikov, M.S., and Starovoytova, R.P.

TITLE: The excitation of a metallic cylinder with dielectric coating

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, abstract 8-7-137 r (Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, no. 39, 1960, 46-57)

TEXT: The authors examine the problem of the symmetrical concentrated excitation of an infinite metallic cylinder covered with a layer of dielectric, by means of an annular magnetic flux. They show that under these conditions there is launched a plane surface wave propagated along the cylinder, together with a spherical radiation wave. They determine the efficiency of excitation of the surface wave (the ratio between the energies in the surface and the free-space waves). They also obtain the radiation impedance of the system. [Abstracter's note: Complete translation.]

✓C

Card 1/1

S/194/62/000/007/139/160
D413/D308

9,3700

AUTHORS: Starovoytova, R.P., and Sytnik, V.A.

TITLE: Natural oscillations in a metal trough with layered filling

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7-7-173 f (Tr. Sibirs. fiz.-tekhn. in-ta pri Tomskom un-te, no. 39, 1960, 66-71)

TEXT: The authors investigate the types of waves in a rectangular infinite metal trough containing two dielectric plates parallel to its bottom. One of the plates lies on the bottom and the other is at a certain distance from it. Characteristic equations are obtained for longitudinal magnetic waves (having no electric field component normal to the separation boundary between the media), and for longitudinal electric waves (having no analogous magnetic field component). It is shown that two types of longitudinal magnetic wave may exist in the system. 4 references. [Abstracter's note: Complete translation.]

Card 1/1

BOBROVNIKOV, M.S.; STAROVOYTOVA, R.P.

Concentrated excitation of a metallic cylinder with a dielectric coating. Izv. vys. ucheb. zav.; radiotekh. 4 no. 2:140-147
Mr-Ap '61. (MIRA 14:5)

1. Rekomendovana kafedroy radiofiziki Tomskogo gosudarstvennogo universiteta imeni V.V. Kuybysheva.
(Radio lines)

9,9700 (1327)

31985
S/142/61/004/004/006/018
E192/E382

AUTHORS: Bobrovnikov, M.S., Starovoytova, R.P. and Smirnov, V.P.

TITLE: The efficiency of excitation of surface waves by a lumped source on an impedance plane

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Radiotekhnika, v. 4, no. 4, 1961, 432 - 438TEXT: The problem of lumped excitation of an infinite impedance plane by a magnetic current filament is considered. The plane has an isotropic impedance and represents the simplest delay system. The impedance plane, whose surface coincides with the coordinate plane y, z (see Fig. 1), is excited by an infinitely long magnetic current filament j^m , which is parallel to the axis y , which is situated at a distance x_0 from the impedance plane; thus:

$$j^m = I^m \delta(x - x_0) \delta(z)$$

Card 1/ β_5

31985
S/142/61/004/004/006/018
E192/E382

The efficiency of

where $x = x_0$ and $z = 0$ are the coordinates of the source, and
 I_m is the amplitude of the source.

Under these excitation conditions only the three field components
are produced, namely - E_x , E_z and H_y . The component H_y
can be found by solving the Maxwell equations, while the other
field components can be expressed in terms of H_y . The
boundary condition at the impedance surface is:

$$E_z = Z H_y/x=0$$

where Z is the surface impedance. It is shown that the
surface-wave component of the magnetic field is given by:

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S/142/61/004/004/006/018
E192/E382

The efficiency of

$$H_{ynob} = \frac{4\pi ik}{c} I^m \frac{v_o}{h_o} e^{-x_o v_o} e^{-x v_o} e^{ih_o z} \quad (9)$$

$0 \leq x \leq \infty$

where:

$$v_o = \sqrt{h_o^2 - k^2}$$

In the above $k = 2\pi/\lambda$ and $v = \sqrt{k^2 - h_o^2}$. The power carried by the surface wave is expressed by:

$$P_{nob} = \frac{\pi}{c} I^m k \frac{v_o}{h_o} e^{-2x_o v_o} \quad (10) .$$

The radiation field components are also determined and it is shown that the radiated power can be expressed by:

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31985
S/142/61/004/004/006/018
E192/E382

The efficiency of

$$P_{\text{eff}} = \frac{Im^2 k}{c} \left\{ \frac{\pi}{4} + \sum_{n=1}^{\infty} \frac{\Gamma\left(\frac{1}{2}\right) \Gamma\left(n - \frac{1}{2}\right)}{(1-Q^2)^n (kx_0)^{n-1}} \times \right. \\ \left. \times \left[\frac{1}{4} (1-\zeta^2) I_{n-1}(2kx_0) - I_n(2kx_0) \left(n - \frac{1}{2} \right) \left(\frac{1}{4kx_0} + \frac{Q}{2n-1} \right) \right] \right\} \quad (12)$$

where $Z = -iQ$. By analyzing the above formulae (and comparing the results with some experimental data) it is concluded that a plane electromagnetic wave impinging on an infinite uniform impedance plane does not excite surface waves. On the other hand, when the surface waves are excited by a lumped source, the efficiency of excitation depends on the delay coefficient $\beta = h_0/k$ and the distance of the source from the impedance plane. An optimum height for the source above the impedance plane can be determined for every given value of β . Thus, for example, for $\beta = 1.25$ the highest

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31985
S/142/61/004/004/006/018
E192/E382

The efficiency of

efficiency of $\eta = 0.981$ is reached for $x_0/\lambda = 0.16$. The excitation efficiency near to unity can be achieved for comparatively low values of the delay coefficient ($\beta = 1.05 - 1.2$).

There are 5 figures and 6 references: 2 Soviet-bloc and 4 non-Soviet-bloc. The four English-language references mentioned are: Ref. 1 - A.L. Cullen - PIEEE, 1957, C 104, no. 6, 237; Ref. 2 - G.I. Rich, PIEEE, 1955, B 102, no. 2, 237; Ref. 3 - A.L. Cullen, PIEEE, August, 1955, 101, 4, 225 and Ref. 4 - I.W. Dunkan, IRE Trans., 1959, MTT-7, no. 2, 257

ASSOCIATION: Kafedra radiofiziki Tomskogo gos. universiteta im. V.V. Kuybysheva (Department of Radio Physics of Tomsk State University im. V.V. Kuybyshev)

SUBMITTED: August 28, 1960 (initially)
November 3, 1960 (after revision)

Card 5/6

40057

S/139/62/000/004/011/018
E140/E335

24.10.00

AUTHORS: Starovoytova, R.P. and Bobrovnikov, M.S.
TITLE: Excitation of an impedance wedge by a filiform
magnetic source at the apex
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Fizika, no. 4, 1962, 130 - 139
TEXT: The presence of an impedance wedge makes the usual
solution by separation of variables impossible. Several
attempts have been made at the solution of special cases; in
other attempts, complicated methods were used (W.E. Williams,
Proc. Cambr. Philosoph Soc., 57, 2, April, 1961). The basis of
the present solution is an integral expansion with kernels
representing plane waves. Analysis of the solution indicates that
at small aperture angles the amplitudes of the surface waves
obtained are greater than on a plane with the same impedance
values. If the angle is taken too small, the surface waves and
radiation waves become confused in space. There are 5 figures.
ASSOCIATION: Sibirskiy fiziko-tehnicheskiy institut pri
Tomskom gosuniversitete imeni V.V. Kuybysheva

Card 1/2

Excitation of

S/139/62/000/004/011/018
E140/E335

(Siberian Physicotechnical Institute of
Tomsk State University imeni V.V. Kuybyshev)
SUBMITTED: September 28, 1961

Card 2/2

9,9821

34490
S/109/62/007/002/009/024
D266/D303

AUTHORS: Starovoytova, R.P., Bobrovnikov, M.S., and Kislitsina,
V.N.

TITLE: Scattering of surface waves by a discontinuity in an
impedance sheet

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 2, 1962,
250 - 259

TEXT: The purpose of the paper is to study the effect of a wedge-like discontinuity on the propagation of surface waves. The dimensions perpendicular to the paper are assumed to be infinite and a surface wave of the form

$$U_0 = e^{-\alpha+x} e^{-ik\beta+y} \quad (1)$$

is assumed to propagate on the upper sheet (α - attenuation coefficient, $k = 2\pi/\lambda$, λ - free space wavelength, β - retardation coefficient). The angle between the sheets is 2Φ and their impedances (assumed purely reactive) are Z_+ and Z_- respectively. The mathema-

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S/109/62/007/002/009/024
D266/D303

Scattering of surface waves by a ...

tical solution of the problem is obtained by following the method of G.D. Malyuzhinets (Ref. 2: Dokl. AN SSSR, 1958, 121, 3, 436) and (Ref. 3: Nekotoroye obobscheniye metoda otrazheniy v teorii difraktsii sinusoial'nykh voln (Generalization of the Reflection Method in the Theory of the Diffraction of Sinusoidal Waves) Doctoral thesis, Izd. AN SSSR, 1950), who studied the problem of diffraction on similar structures and tabulated some of the special functions involved. The reflection coefficient in this case can be expressed in the form of trigonometric functions as follows

$$|R| = \left| \frac{\tan h \frac{jk}{2\Phi} [1 - \tan \frac{jk^2}{2\Phi} \tan h \frac{(k_+ - k_-)}{4\Phi}]}{\tan \frac{jk^2}{4\Phi} - j \tan h \frac{jk_+}{2\Phi}} \right| \quad (9)$$

where

$k_{\pm} = j\theta_{\pm}$, $\sin \theta_{\pm} = Z_0/Z_{\pm}$
and Z_0 is the impedance of free space. The reflection coefficient is zero if the conditions

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Scattering of surface waves by a ...

S/109/62/007/002/009/024
D266/D303

$$\kappa_+ = \kappa_- \text{ and } 2\Phi = \frac{\pi}{2n+1}, n = 0, 1, 2, \dots \quad (10)$$

are satisfied. If $\kappa_+ \neq \kappa_-$ the reflection coefficient has a non-zero minimum. If $\Phi = \pi/2$ (half-infinite plane) and the impedances are equal on both sides of the sheet, the reflection and transmission coefficients are given by the same expression and both tend to the limit of $1/\sqrt{2}$ in the case of an infinitely slow wave. These results agree with those of N.G. Trenev (Ref. 5: Radiotekhnika i elektronika, 1958, 3, 1, 27), who used a different approach. The radiation coefficient is defined as

$$|D|^2 = 1 - (|R|^2 + |T|^2)$$

$|D|^2$ can vary between zero and unity depending on β . If $\beta \approx 1$ all the power goes into radiation whilst for $\beta = \infty$ all the power is contained in the surface waves. For values of β near to unity the maximum of the radiation pattern is in the y direction, but as β increases the main lobe of radiation tends to occupy a symmetric position in respect to the wedge. Nearly all the calculated radia-

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Scattering of surface waves by a ...

S/109/62/007/002/009/024
D266 D303

tion patterns are free of side lobes but this seems to be a consequence of the two dimensional arrangement. There are 13 figures and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: A. F. Kiy, IRE, Trans., 1959, AP-7, 1, 22.

SUBMITTED: June 23, 1961

Card 4/4

9.3700

AUTHORS:

TITLE:

PERIODICAL:

TEXT:

Theoretically the radiation field and a magnetic current source coincide with the $x = 0$ and $z = 0$ planes. The purpose of the paper is to determine the impedance sheets in the point x_0, z_0 . The surface impedance of the sheets is located along the y axis and a magnetic current source is located along the $x = 0$ and $z = 0$ planes. The surface impedance of the sheets is determined by the formula:

$$U(x, z) = \frac{ik^4 \bar{\nu}}{c} \int j^B(x_0, z_0) G(x, z, x_0, z_0) ds_0 \quad (2)$$

where U satisfies the inhomogeneous wave equation with the respective boundary conditions on the impedance sheets and G .

Card 1/3

S/109/62/007/011/003/012
D266/D308

Excitation ...

is Green's function obtained by known methods. Expressing the magnetic current density with the aid of δ functions and assuming purely inductive surface impedances

$$z_1 = -iQ_1, \quad z_2 = -iQ_2$$

(Q_1 and Q_2 positive) the integrand of (2) contains two poles and a branch point leading to surface waves and radiation fields respectively. If $Q_2 = 0$ ($z = 0$ sheet ideally conducting)

$$z_0 = \frac{\lambda_1}{4} (2n + 1), \quad n = 0, 1, 2, \dots \quad (13)$$

for $Q_2 = \infty$

$$z_0 = \frac{\lambda_1}{2} n$$

where λ_1 - wavelength of the surface wave. It is further shown that the position of maximum excitation is half way between the

Card 2/3

BOBROVNIKOV, M.S.; STAROVOYTOVA, R.P.

Diffraction of cylindrical waves on an impedance wedge. Izv. vys.
ucheb. zav.; fiz. no.6:168-176 '63. (MIRA 17:2)

1. Sibirskiy fiziko-tehnicheskiy institut pri Tomskom gosudarstven-
nom universitete imeni Kuybysheva.

BOBROVNIKOV, M.S.; MYSHKIN, V.G.; STAROVYTOVA, R.P.

Problem concerning the excitation of a dihedral right angle with
impedance edges. Radiotekh. i elektron. 8 no.10:1791-1793 0
'63. (MIRA 16:10)

L 54600-65

EWT(1)/E/T(m)/EWP(1)/EEC-4/EEC(t)/T/EWP(t)/FCS(k)/EWP(b)

Fac-4/P1-4/Pj-4/P1-4 WR/JD

ACCESSION NR: AP5006597

S/0142/64/007/006/0751/0756

AUTHOR: Zamareva, V. P.; Starovoytova, R. P.

TITLE: Concentrated excitation of a dielectric-coated metal cylinder

SOURCE: IVUZ. Radiotekhnika, v. 7, no. 6, 1964, 751-756

TOPIC TAGS: antenna, cylindrical antenna *v. 53*

ABSTRACT: The theoretical problem of exciting a perfect-conductance dielectric-coated metal cylinder by a source (magnetic current ring) located either in the dielectric coating or outside, in the air, is considered. The effect of the source location on the efficiency η of surface-wave generation is investigated. The nature of variation of η depends on the radiated power: the source position that produces maximum η corresponds to a minimum radiation. For higher dielectric constants ϵ , smaller exciter apertures can be used for producing sufficiently high η ; the higher ϵ , the closer η comes to 100%. Thus, a

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ACCESSION NR: AP5006597

concentrated source can very efficiently excite the surface waves if the source is placed at a definite distance from the metal surface for selected ϵ , λ and the dielectric-coating thickness. Orig. art. has: 4 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 28Jun63

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 000

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ZAMARAYEVA, V.P.; STAROVYTOVA, R.P.

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1. Sibirskiy fiziko-tehnicheskiy institut pri Tomskom
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KLYUCHAREV, A.A., dotsent; FILIPPOVICH, F.K., vrach; KUL'SHINSKAYA, Ye.P.,
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1. Iz kafedry infektsionnykh bolezney Minskogo meditsinskogo insti-
tuta (zaveduyushchiy - professor A.N. Filippovich) i Minskoy in-
fektsionnoy klinicheskoy bol'nitsy (glavnyy vrach Z.G. Alikina).
(DYSENTERY)

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"APPROVED FOR RELEASE: 08/25/2000

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